

## COMPANY PROFILE

# Applied Isotope Technologies Incorporated (AIT)

**AIT** is a development-stage company dedicated to the advancement and proliferation of Speciated Isotope Dilution Mass Spectrometry ("SID-MS") technology through academic and commercial applications in industrial, medical, biological, pharmaceutical, environmental, forensic and anti-counterfeiting markets. The Company is the recipient of a worldwide, exclusive license to technology.

SID-MS is an enabling, fundamental suite of technologies invented by Professor Howard M. "Skip" Kingston of Duquesne University, who is the holder of the critical first SID-MS patent. The seminal SID-MS patent was issued in 1995 (US-PTO No.5,414,259) and won an R&D-100 award in 1996. Professor Kingston is the recipient of three prestigious R&D-100 awards, NIST Applied Research Award, DOE Bronze medal and many other awards. His previous R&D-100 winning inventions have been licensed by several public and private companies, and have resulted in many commercially successful products.

The US spends \$1.1 trillion on health care. About \$140 billion of this amount is associated with measurement. In the \$200-billion-a-year drug discovery and QA segments of the pharmaceutical industry, there is significant demand for *SID-MS based, quantitative* proteome analysis using isotope-tagging approaches to develop protein-based drugs. Similar opportunities in the proteomics field based on **AIT's** isotope-coded protein-chips concepts also exist in the \$20 billion *in vitro* diagnostic market.

US losses due to counterfeiting are estimated between \$250-300 billion a year. Counterfeit software products alone represents \$11 billion a year problem for the country. There is ample evidence that counterfeiting is one of the preferred business activities of terrorist organizations. **AIT's** proprietary *isotopic-taggant technology* is the only truly unbreakable approach to authentication and brand protection.

Over the past ten years, Mass Spectrometry ("MS") has become the dominant instrument for detection and analyses of elements and species of interest that exist at trace level quantities. The power of MS is still untapped because *truly quantitative* MS analysis of many speciated compounds is not achievable using existing methods. The ability to identify and measure multiple elements and compounds in speciated forms through the use of SID-MS and to provide precise, accurate results - *impossible today* - will make significant impact in and even transform many multi-billion dollar industries.

The SID-MS is a fundamental and widely applicable method that has been adopted by the Environmental Protection Agency ("EPA") as the "only available means to make accurate and legally defensible measurements". The EPA Method 6800 is dedicated to SID-MS and is currently utilized for the analyses of toxic elements in speciated forms during environmental contamination trials in the US courts. The devastation caused by Cr(VI) has been depicted in the movie, Erin Brockovich. Adoption and certification of SID-MS by the European equivalent of EPA is expected soon.

Initial set of products offered by **AIT** includes groups of "value-added" industrial, chemical, environmental, biological and proteomic standards, reagent and reference material tagged with stable isotopes. Stable Isotopes are different than unstable ones (radioactive isotopes) and are harmless. Unlike other popular analytical methods, isotopically-tagged compounds are not chemically altered. Maintaining the chemical integrity of the target compounds makes it possible to apply SID as a direct measurement tool for quantitative analyses of elements and compounds with the MS. Offered in certified kit form, **AIT's** products will save time associated with experimental set-up, eliminate costly errors and cut down analysis time, thus speeding up R&D and shortening time-to-market for many difficult-to-analyze compounds.

**Email -** [AppliedIsotopes@comcast.net](mailto:AppliedIsotopes@comcast.net)

**East Coast – Ph: 412-396-5359 Fax: 412-396-4013**

**West Coast - Ph: 408-472-2333 Fax: 408-245-2333**

*AITProfile 0204*